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# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number Of Pages In This Submission

26

Application Number

09/646,478

Filing Date

September 15, 2000

First Named Inventor

Jin JEN

Group Art Unit

Unassigned

Examiner Name

Unassigned

Attorney Docket No.

GZ 2018.00

## ENCLOSURES (check all that apply)

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Fee Transmittal Form                                   | <input type="checkbox"/> Assignment Papers<br>(for an Application)                         | <input type="checkbox"/> After Allowance Communication to Group   |
| <input type="checkbox"/> Fee Attached   | <input type="checkbox"/> Drawing(s)  | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences   |
| <input type="checkbox"/> Amendment / Reply                                      | <input type="checkbox"/> Licensing-related Papers  | <input type="checkbox"/> Appeal Communication to Group<br>(Appeal Notice, Brief, Reply Brief)   |
| <input type="checkbox"/> After Final  | <input checked="" type="checkbox"/> Petition   | <input type="checkbox"/> Proprietary Information  |
| <input type="checkbox"/> Affidavits/declarations                                | <input type="checkbox"/> Petition to Convert to a Provisional Application                  | <input type="checkbox"/> Status Letter  |
| <input type="checkbox"/> Extension of Time Request                              | <input type="checkbox"/> Power of Attorney, Revocation<br>Change of Correspondence Address | <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):   |
| <input type="checkbox"/> Express Abandonment Request                            | <input type="checkbox"/> Terminal Disclaimer   | Copy of Response Notice from PTO re:<br>Renewed Request Under 37 C.F.R.<br>1.497(d); Copy of Certificate Under 37 CFR<br>3.73(b); Copy of Postcard for Missing Parts<br>filing; Substitute Certificate Under 37 CFR<br>3.73(b); Copy of Recordation Assignment as<br>filed; Copy of Joint Assignment and Return<br>Receipt Postcard |
| <input type="checkbox"/> Information Disclosure Statement                       | <input type="checkbox"/> Request for Refund  |   |
| <input type="checkbox"/> Certified Copy of Priority Document(s)                 | <input type="checkbox"/> CD, Number of CD(s) _____   |   |
| <input type="checkbox"/> Response to Missing Parts/<br>Incomplete Application   | Remarks  |   |
| <input type="checkbox"/> Response to Missing Parts<br>under 37 CFR 1.52 or 1.53 |  |   |

## SIGNATURE OF APPLICANT, ATTORNEY OR AGENT

Firm

Antoinette F. Konski  
Bingham McCutchen LLP  
Three Embarcadero Center, Suite 1800  
San Francisco, California 94111

or

Individual Name

Signature

Date

## CERTIFICATE OF EXPRESS MAIL

I hereby certify that this paper or fee is being deposited with the United States Postal Service with sufficient postage as Express Mail Label No. **EV 155 463 076 US** in an envelope addressed to: Attention Box PCT Legal Office, Commissioner for Patents, Washington, D.C. 20231 on this date: August 8, 2002.

*Jae Wan Hwang*  
Jae Wan Hwang



19 JUN 2

UNITED STATES PATENT AND TRADEMARK OFFICE

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Washington, D.C. 20231  
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JUN 24 2002

MDB&E

Antoinette F. Konski  
McCutchen, Doyle, Brown & Enersen LLP  
3 Embarcadero Center, Suite 1800  
San Francisco, CA 94111

In re Application of JEN et al  
U.S. Application No.: 09/646,478  
Int. Application No.: PCT/US99/06947  
Int. Filing Date: 30 March 1999  
Priority Date: 31 March 1998  
Attorney Docket No.: 126881201800  
For: METHODS FOR THE DIAGNOSIS AND  
TREATMENT OF LUNG CANCER

DECISION

This is in response to applicants' "Renewed Request Under 37 C.F.R. § 1.497(d) and Petition for Suspension of the Rules Under 37 C.F.R. § 1.183" filed 14 May 2002.

**BACKGROUND**

On 30 March 1999, applicants filed international application PCT/US99/06947, which claimed priority of an earlier United States application filed 31 March 1998. A Demand for international preliminary examination, in which the United States was elected, was filed on 12 October 1999, prior to the expiration of nineteen months from the priority date. Accordingly, the thirty-month period for paying the basic national fee in the United States expired at midnight on 30 September 2000.

On 15 September 2000, applicants filed national stage papers in the United States. The submission was accompanied by, *inter alia*, the basic national fee required by 35 U.S.C. 371(c)(1).

On 13 October 2000, the United States Designated/Elected Office (DO/EO/US) mailed a Notification of Missing Requirements Under 35 U.S.C. 371 (Form PCT/DO/EO/905), indicating that an oath or declaration in compliance with 37 CFR 1.497 must be filed along with a surcharge under 37 CFR 1.492(e) for providing the oath or declaration later than thirty (30) months from the priority date.

On 17 January 2001, applicants filed a "Response to Notice of Missing Requirements" which included, *inter alia*, a declaration, an assignment document, and the required late declaration surcharge.

Docket: 19442-7030 US  
Action: Request Reconsideration  
Date Due: 3-19-02 FINAL

On 20 April 2001, the DO/EO/US mailed a Notification of a Defective Response (Form PCT/DO/EO/916) along with a Notification of a Defective Oath or Declaration (Form PCT/DO/EO/917) indicating that the declaration filed 17 January 2001 is improper since the declaration lists an inventor who is not listed on the international application.

On 21 May 2001, applicants filed a request to correct inventorship under 37 CFR 1.497(d).

On 14 August 2001, this Office mailed a decision dismissing the 21 May 2001 request to correct inventorship.

On 04 March 2002, applicants filed a renewed request under 37 CFR 1.497(d) along with new declarations.

On 20 March 2002, this Office mailed a decision dismissing the 04 March 2002 renewed request on grounds that consent of the assignee had not been properly established.

On 14 May 2002, applicants filed the present renewed request to add David Sidransky as a joint inventor.

### **DISCUSSION**

37 CFR 1.497(d) (effective 07 November 2000) states,

If the oath or declaration filed pursuant to 35 U.S.C. 371(c)(4) and this section names an inventive entity different from the inventive entity set forth in the international application, the oath or declaration must be accompanied by: (1) a statement from each person being added as an inventor and from each person being deleted as an inventor that any error in inventorship in the international application occurred without deceptive intention on his or her part; (2) the processing fee set forth in § 1.17(i); and (3) if an assignment has been executed by any of the original named inventors, the written consent of the assignee (see § 3.73(b) of this chapter).

Applicants have previously satisfied items (1) and (2) above.

With regard to item (3) above, the assignee must establish ownership of the application in order to consent to a correction of inventorship. See MPEP 324. Under 37 CFR 3.73(b)(1), ownership of the application may be established by: (i) submitting documentary evidence of a chain of title from the original owner to the assignee; or (ii) specifying by reel and frame number where such evidence is recorded in the USPTO.

Documentation relating to the following three entities appears in the application file: 1) AgraQuest, Inc., 2) Genzyme Corporation, and 3) Johns Hopkins University.

AgraQuest Inc.

On 30 March 2001, applicants filed a "Prosecution by Assignee and Power of Attorney Under 37 C.F.R. § 3.71" which states that AgraQuest, Inc. is the assignee of the entire right, title, and interest in the present application. The present renewed request states that this document was filed erroneously without deceptive intent. Applicant's explanation for the discrepancy is accepted.

Genzyme Corporation

On 17 January 2001, applicants filed a "Certificate Under 37 CFR § 3.73(b)" which states that Genzyme Corporation is an assignee of part interest in the present application. The certificate was accompanied by copies of purported assignment agreements signed by joint inventors Gary Beaudry, Stephen Madden and Arthur Bertlesen. At least one of the purported assignment agreements is improper because it contains only a signature page. It is not sufficient to submit only the signature page of an assignment document. Applicants were notified of such defect in the decision mailed 14 August 2001. Applicant must file either 1) a single complete assignment document signed by all of the appropriate inventors or 2) multiple complete assignment documents, with each appropriate inventor's signature appearing on one of the multiple complete assignment documents.

On 04 March 2002, applicants filed a "Consent of Assignees to Change Inventorship" signed by Thomas DesRosier, Chief Patent Counsel. However, Mr. DesRosier's statement neither sets forth that he is authorized to act on behalf of Genzyme Corporation nor does Mr. DesRosier hold a position which is recognized as having apparent authority to act on behalf of a corporation. See MPEP 324. Therefore, the consent document filed 04 March 2002 does not constitute sufficient written consent of the assignee.

Johns Hopkins University

On 30 April 2001, applicants filed a "Statement Under 37 CFR 3.73(b)" which states that Johns Hopkins University is an assignee of part interest in the present application. The statement was accompanied by copies of assignment agreements signed by joint inventor Jin Jen and purported joint inventor David Sidransky. Such assignment agreements properly establish a chain of title from Jen and Sidransky to Johns Hopkins University.

On 04 March 2002, applicants filed a "Consent of Assignees to Change Inventorship" signed by R. Keith Baker, Director, Office of Technology Licensing. However, Mr. Baker's statement neither sets forth that he is authorized to act on behalf of Johns Hopkins University nor does Mr. Baker hold a position which is recognized as having apparent authority to act on behalf of a corporation/university. See MPEP 324. Therefore, the consent document filed 04 March 2002 does not constitute sufficient written consent of the assignee.

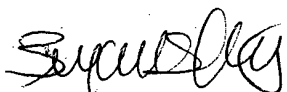
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**CONCLUSION**

Because applicants have failed to satisfy item (3) above, the renewed request under 37 CFR 1.497(d) is DISMISSED without prejudice.

If reconsideration on the merits of this decision is desired, a proper response must be filed within TWO (2) MONTHS from the mail date of this decision. Failure to timely file a proper response will result in ABANDONMENT of the application. Any reconsideration request should include a cover letter entitled "Renewed Request Under 37 CFR 1.497(d)" and should also properly establish consent of the assignee as discussed above. Extensions of time may be obtained pursuant to 37 CFR 1.136(a).

Please direct further correspondence with respect to this matter to the Commissioner for Patents, Box PCT, Washington, D.C. 20231, and address the contents of the letter to the attention of the PCT Legal Office.



Bryan Tung  
PCT Legal Examiner  
PCT Legal Office

Telephone: 703-308-6614  
Facsimile: 703-308-6459

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application for:

Jin Jen et al.

Serial No.: 09/646,478

International Filing Date: March 30, 1999

For: METHODS FOR THE DIAGNOSIS AND  
TREATMENT OF LUNG CANCER

Examiner: Not yet assigned

Group Art Unit: Not yet assigned

**CERTIFICATE UNDER 37 CFR § 3.73(b)**

**Genzyme Corporation**, a **Massachusetts** corporation certifies that it is a joint assignee of the entire right, title and interest in the patent application identified above by virtue of either:

A. ☒ An assignment from inventors of the patent application identified above. The assignment is being filed under separate cover and a copy thereof is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application identified above, to the current assigned as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel  
\_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy  
thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel  
\_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy  
thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of the undersigned's knowledge and belief, title is in the assignee identified above.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United State Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 12-18-00

By: 

Name: Thomas J. DesRosier

Title: Senior Vice President

Chief Patent Counsel

Genzyme Corporation

Address: Metrowest Place

15 Pleasant Street Connector

Framingham, MA 01701

**FIRST CLASS MAIL**

**Date Mailed** January 11, 2001

**Due Date:** January 13, 2001

**Atty. Docket:** 126881-201800

**Applicant(s):** Jin JEN, et al.

**Title:** Methods for the Diagnosis and Treatment of Lung Cancer

**Application No.:** 09/646,478  
(PCT/US99/06947)

**Filing Date:** September 15, 2000  
(March 30, 1999)

**Examiner:** Unassigned

**Group Art Unit:** Unassigned

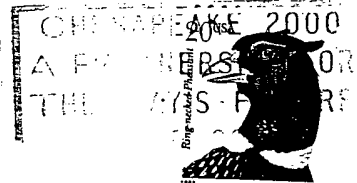
**BOX MISSING PARTS**

Commissioner for Patents  
Washington, DC 20231

**SIR:**

Please place the U.S. Patent and Trademark Office date stamp hereon to acknowledge receipt of the following:

1. Response to Notice of Missing Requirements (in duplicate);
2. Petition for Extension of Time (2 months - in duplicate);
3. Executed Declaration (6 pages) and Prosecution by Assignee and Power of Attorney (2 pages); Certificate under 37 CFR 3.73 (b) with copy of Recordation Form Cover Sheet and Assignment (8 pages);
4. Copy of Notice; Check No.1220 in the amount of \$520.00; and
5. Return postcard.



**Baker & McKenzie**  
660 Hansen Way  
Palo Alto, California 94304

**Attn: Patent Department**





Docket No. GZ 2018.00

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application for:

Jin Jen, et al.

Serial No.: 09/646,478 (based on  
PCT/US99/06947)

Intl. Filing Date: March 30, 1999

For: METHODS FOR THE DIAGNOSIS AND  
TREATMENT OF LUNG CANCER**SUBSTITUTE CERTIFICATE UNDER 37 C.F.R. § 3.73(b)**

John Hopkins University School of Medicine, a university certifies that it is the joint assignee of an undivided interest in the entire right, title and interest in the patent application identified above by virtue of either:

A. ☐ An assignment from the inventor of the parent application identified above. The assignment is being filed under separate cover and a copy thereof is attached.

OR

B. ☒ A chain of title from an inventor(s), of the patent application identified above, to the current assigned as shown below:

1. From: Jin Jen and David Sidransky To: John Hopkins University School of Medicine.  
The document was recorded in the Patent and Trademark Office at Reel 011456, Frame 0750, or for which a copy thereof is attached.

2. From: \* To: \*  
The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

3. From: \* To: \*  
The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☐ Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of the undersigned's knowledge and belief, title is in the assignee identified above. The undersigned (whose title is supplied below) is empowered to sign this statement on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 7/29/02

By: R. Keith Baker  
Name: R. Keith Baker, Ph.D.  
Title: Director, Office of  
Technology Licensing  
John Hopkins University  
School of Medicine  
111 Market Place, Suite 906  
Baltimore, MD 21202



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APRIL 06, 2001

PTAS



\*101597761A\*

BAKER & MCKENZIE  
ANTOINETTE F. KONSKI  
660 HASEN WAY  
PALTO ALTO, CA 94304

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 01/17/2001

REEL/FRAME: 011456/0750  
NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
JEN, JIN

DOC DATE: 01/03/2001

ASSIGNOR:  
SIDRANSKY, DAVID

DOC DATE: 01/04/2001

ASSIGNEE:  
JOHN HOPKINS UNIVERSITY SCHOOL OF  
MEDICINE  
824 ROSS RESEARCH BLDG/ 720  
RUTLAND AVENUE  
BALTIMORE, MARYLAND 21202

SERIAL NUMBER: 09646478  
PATENT NUMBER:

FILING DATE:  
ISSUE DATE:

**Baker & McKenzie**

APR 12 2001

Received  
Patent Dept.

011456/0750 PAGE 2

SHAREILL COLES, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

101597761

Washington, D.C. 20231

195072v1

ASSIGNMENT  
JOINT

THIS ASSIGNMENT, by **Jin Jen and David Sidransky** (hereinafter referred to as the assignors), residing at **2104 Heritage Drive, Baltimore, Maryland 21209** and **3007 Northbrook Rd., Baltimore, Maryland 21209** respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in **METHODS FOR THE DIAGNOSIS AND TREATMENT OF LUNG CANCER**, set forth in an application for Letters Patent of the United States, bearing Serial No. **09/646,478**, based on PCT International PCT/US99/06947, filed on March 30, 1999, and

WHEREAS, **John Hopkins University**, a university duly organized under and pursuant to the laws of **Maryland** and having its principal place of business at **School of Medicine, 824 Ross Research Building, 720 Rutland Avenue, Baltimore, MD 21202** (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over, unto said assignee, its successors, legal representative and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representative and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.


AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the joint and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representative and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, Legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

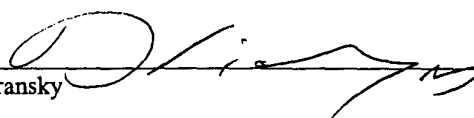
PATENT

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

1/3/01  
Date

  
Jin Jen

1/4/01  
Date

  
David Sidransky

## ASSIGNMENT

We, **Jin Jen and David Sidransky**, whose full post office addresses are **2412 St. George Way, Brookeville, Maryland 20833** and **3007 Northbrook Road, Baltimore, Maryland 21209**, respectively, in consideration of \$1.00, the receipt of which is hereby acknowledged and other good and valuable consideration, do hereby sell and assign to **John Hopkins University**, whose full post office address is **School of Medicine, 824 Ross Research Building, 720 Rutland Avenue, Baltimore, Maryland 21205**, all our rights, title and interests in Canada in and to the invention disclosed in an application for patent relating to, and entitled **METHODS FOR THE DIAGNOSIS AND TREATMENT OF LUNG CANCER**, the application originating from PCT application number PCT/US99/06947 and bearing the Canadian Patent Application No. 2,323,058, and international filing date of 30 March 1999, and to all our corresponding rights, title and interests in and to any patent which may be, or has been granted therefor.

The Assignors hereby require that this assignment be drawn in the English language.

SIGNED at Bethesda, MD. U.S.A.  
City and State Country

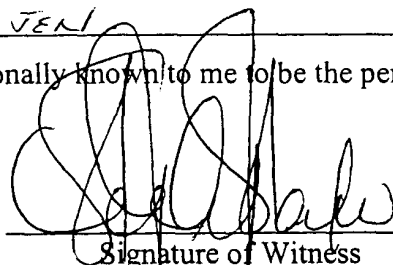
This 3<sup>rd</sup> day of January, 2000.

  
Jin Jen

## STATEMENT BY WITNESS

I, STEPHANIE PLAYER whose full post office address is  
14809 CHERRY LEAF TERRACE, SILVER SPRING, MD 20906


was personally present and did see JIN JEN execute the  
within assignment and such assignor is personally known to me to be the person described in  
such document.

  
Signature of Witness 01/23/01



SIGNED at BALTIMORE, MD USA  
City and State Country

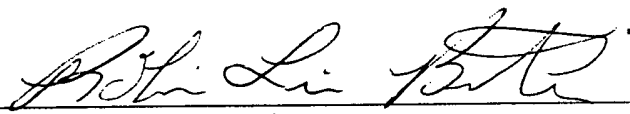
This 4 day of JANUARY, 2000.

  
\_\_\_\_\_  
David Sidransky

**STATEMENT BY WITNESS**

I, ROBIN LIN BREWSTER whose full post office address is  
602 N CHURCHILL RD. BEL AIR, MD 21014

\_\_\_\_\_  
was personally present and did see DAVID SIDRANSKY, M.D. execute the  
within assignment and such assignor is personally known to me to be the person described in  
such document.

  
\_\_\_\_\_  
Signature of Witness

## PATENT

ASSIGNMENT  
JOINT

THIS ASSIGNMENT, by Gary A. Beaudry, Stephen L. Madden and Arthur <sup>W.</sup> Bertlesen (hereinafter referred to as the assignors), residing at 109 Inwood Avenue, Montclair, New Jersey 07043; 137 Nobscot Road, Sudbury, Massachusetts 01776 and 215 Manor Road, Ridgewood, New Jersey 07450, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in **METHODS FOR THE DIAGNOSIS AND TREATMENT OF LUNG CANCER**, set forth in an application for Letters Patent of the United States, bearing Serial No. 09/646,478, based on PCT International PCT/US99/06947, filed on March 30, 1999, and

WHEREAS, Genzyme Corporation, a corporation duly organized under and pursuant to the laws of the commonwealth of Massachusetts and having its principal place of business at Metrowest Place, 15 Pleasant Street Connector, Framingham, Massachusetts 01701 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over, unto said assignee, its successors, legal representative and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representative and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the joint and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representative and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

## PATENT

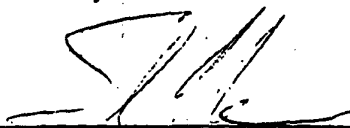
AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

Date

12/17/00

Date

Gary A. Beaudry



Stephen L. Madden

Date

Arthur N. Bertlesen

PATENT

ASSIGNMENT  
JOINT

THIS ASSIGNMENT, by Gary A. Beaudry, Stephen L. Madden and Arthur N. Bertlesen (hereinafter referred to as the assignors), residing at 109 Inwood Avenue, Montclair, New Jersey 07043; 137 Nobscot Road, Sudbury, Massachusetts 01776 and 215 Manor Road, Ridgewood, New Jersey 07450, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in **METHODS FOR THE DIAGNOSIS AND TREATMENT OF LUNG CANCER**, set forth in an application for Letters Patent of the United States, bearing Serial No. 09/646,478, based on PCT International PCT/US99/06947, filed on March 30, 1999, and

WHEREAS, Genzyme Corporation, a corporation duly organized under and pursuant to the laws of the commonwealth of Massachusetts and having its principal place of business at Metrowest Place, 15 Pleasant Street Connector, Framingham, Massachusetts 01701 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over, unto said assignee, its successors, legal representative and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representative and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the joint and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representative and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

## PATENT

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

12/8/00  
Date

Gary A. Beaudry  
Gary A. Beaudry

                      
Date

Stephen L. Madden  
Stephen L. Madden

                      
Date

Arthur N. Bertlesen  
Arthur N. Bertlesen

## PATENT

ASSIGNMENT  
JOINT

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AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representative and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

## PATENT

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

Date

Gary A. Beaudry

Date

Stephen L. Madden

Date

12-6-00

Arthur M. Bertleson  
H.